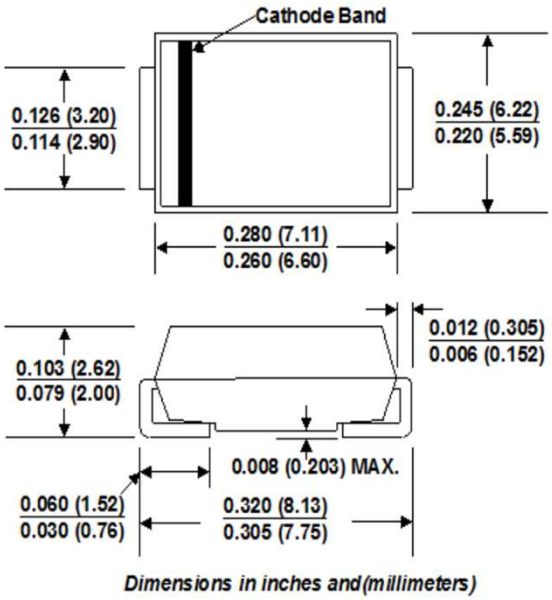
5.0SMDJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE- 5 TO 170 Volts
5000 Watt Peak Pulse Power

DO-214AB (SMC J-Bend)



Dimensions in inches and(millimeters)

FEATURES

◎ For surface mounted applications in order to optimize board space
◎ Halogen-Free
◎ RoHS compliant
◎Typical maximum temperature coefficient $\triangle V_{BR}$=0.1%xV_{BR}@25℃x$\triangle$T
◎ Low profile package
◎ Built-in strain relief
◎ Glass passivated junction
◎ Low inductance
◎ Excellent clamping capability
◎ Repetition Rate (duty cycle):0.01%
◎ Fast response time: typically less than 1.0ps from 0 Volts to BV
◎ Typical IR less than 2 μA above 12V.
◎ *IEC-61000-4-2 ESD 30kV(Air), 30kV (Contact)*
◎ High temperature soldering: 260°C/40 seconds at terminals
◎ Plastic package has Underwriters Laboratory Flammability 94V-0
◎ Matte Tin Lead-free plated

MECHANICAL DATA

Case: JEDEC DO214AB. Molded plastic over glass passivated junction
Terminal: Solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode) except Bidirectional
Standard Packaging: 16mm tape (EIA STD RS-481)
Weight: 0.007 ounce, 0.21 gram

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000μs waveform (Note 1,2 ,FIG.1)	P_{PPM}	Minimum 5000	Watts
Peak Pulse Current of on 10/1000μs waveform (Note 1,FIG.3)	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note2, 3)	I_{FSM}	300	Amps
Operating junction and Storage Temperature Range	T_J , T_{STG}	-55 to + 150	℃

Notes :

1.Non-repetitive current pulse , per Fig. 3 and derated above T_A = 25℃ per Fig. 2 .
2.Mounted on 8.0mm x 8.0mm Copper Pads to each terminal
3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

5.0SMDJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE - 5 TO 170 Volts

5.0SMDJ PART NUMBER		DEVICE MARKING CODE		REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE V_{BR}(V) @I_T		TEST CURRENT IT (mA)	MAXIMUN CLAMPING VOLTAGE @Ipp Vc(V) (10/1000uS)	PEAK PULSE CURRENT Ipp (A) (10/1000uS)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc(V) (8/20uS)	PEAK PULSE CURRENT Ipp (A) (8/20uS)	REVERSE LEAKAGE @ V_{RWM} I_R(μA)
UNI-POLAR	BI-POLAR	UNI	BI	V_{RWM}(V)	MIN	MAX						
5.0SMDJ5.0A	5.0SMDJ5.0CA	5RDE	5DDE	5.0	6.40	7.00	10	9.2	543.60	12.0	2718.0	1050.0
5.0SMDJ6.0A	5.0SMDJ6.0CA	5RDG	5DDG	6.0	6.67	7.37	10	10.3	485.50	13.4	2427.5	1050.0
5.0SMDJ6.5A	5.0SMDJ6.5CA	5RDK	5DDK	6.5	7.22	7.98	10	11.2	446.50	14.6	2232.5	750.0
5.0SMDJ7.0A	5.0SMDJ7.0CA	5PDM	5DDM	7.0	7.78	8.60	10	12.0	416.80	15.6	2084.0	300.0
5.0SMDJ7.5A	5.0SMDJ7.5CA	5PDP	5DDP	7.5	8.33	9.21	1	12.9	387.70	16.8	1938.5	150.0
5.0SMDJ8.0A	5.0SMDJ8.0CA	5PDR	5DDR	8.0	8.89	9.83	1	13.6	367.70	17.7	1838.5	70.0
5.0SMDJ8.5A	5.0SMDJ8.5CA	5PDT	5DDT	8.5	9.44	10.40	1	14.4	347.30	18.7	1736.5	30.0
5.0SMDJ9.0A	5.0SMDJ9.0CA	5PDV	5DDV	9.0	10.00	11.10	1	15.4	324.80	20.0	1624.0	12.0
5.0SMDJ10A	5.0SMDJ10CA	5PDX	5DDX	10.0	11.10	12.30	1	17.0	294.20	22.1	1471.0	6.0
5.0SMDJ11A	5.0SMDJ11CA	5PDZ	5DDZ	11.0	12.20	13.50	1	18.2	274.80	23.7	1374.0	2.0
5.0SMDJ12A	5.0SMDJ12CA	5PEP	5BEP	12.0	13.30	14.70	1	19.9	252.00	25.9	1260.0	2.0
5.0SMDJ13A	5.0SMDJ13CA	5PEQ	5BEQ	13.0	14.40	15.90	1	21.5	233.00	28.0	1165.0	2.0
5.0SMDJ14A	5.0SMDJ14CA	5PER	5BER	14.0	15.60	17.20	1	23.2	216.00	30.2	1080.0	2.0
5.0SMDJ15A	5.0SMDJ15CA	5PES	5BES	15.0	16.70	18.50	1	24.4	205.00	31.7	1025.0	2.0
5.0SMDJ16A	5.0SMDJ16CA	5PET	5BET	16.0	17.80	19.70	1	26.0	193.00	33.8	965.0	2.0
5.0SMDJ17A	5.0SMDJ17CA	5PEU	5BEU	17.0	18.90	20.90	1	27.6	181.16	35.9	905.8	2.0
5.0SMDJ18A	5.0SMDJ18CA	5PEV	5BEV	18.0	20.00	22.10	1	29.2	172.00	38.0	860.0	2.0
5.0SMDJ20A	5.0SMDJ20CA	5PEW	5BEW	20.0	22.20	24.50	1	32.4	155.00	42.1	775.0	2.0
5.0SMDJ22A	5.0SMDJ22CA	5PEX	5BEX	22.0	24.40	26.90	1	35.5	141.00	46.2	705.0	2.0
5.0SMDJ24A	5.0SMDJ24CA	5PEZ	5BEZ	24.0	26.70	29.50	1	38.9	129.00	50.6	645.0	2.0
5.0SMDJ26A	5.0SMDJ26CA	5PFE	5BFE	26.0	28.90	31.90	1	42.1	119.00	54.7	595.0	2.0
5.0SMDJ28A	5.0SMDJ28CA	5PFG	5BFG	28.0	31.10	34.40	1	45.4	110.14	59.0	550.7	2.0
5.0SMDJ30A	5.0SMDJ30CA	5PFK	5BFK	30.0	33.30	36.80	1	48.4	103.31	62.9	516.6	2.0
5.0SMDJ33A	5.0SMDJ33CA	5PFM	5BFM	33.0	36.70	40.60	1	53.3	93.90	69.3	469.5	2.0
5.0SMDJ36A	5.0SMDJ36CA	5PFP	5BFP	36.0	40.00	44.20	1	58.1	86.10	75.5	430.5	2.0
5.0SMDJ40A	5.0SMDJ40CA	5PFR	5BFR	40.0	44.40	49.10	1	64.5	77.60	83.9	388.0	2.0
5.0SMDJ43A	5.0SMDJ43CA	5PFT	5BFT	43.0	47.80	52.80	1	69.4	72.10	90.2	360.5	2.0
5.0SMDJ45A	5.0SMDJ45CA	5PFV	5BFV	45.0	50.00	55.30	1	72.7	68.80	94.5	344.0	2.0
5.0SMDJ48A	5.0SMDJ48CA	5PFX	5BFX	48.0	53.30	58.90	1	77.4	64.70	100.6	323.5	2.0
5.0SMDJ51A	5.0SMDJ51CA	5PFZ	5BFZ	51.0	56.70	62.70	1	82.4	60.70	107.1	303.5	2.0
5.0SMDJ54A	5.0SMDJ54CA	5RGE	5BGE	54.0	60.00	66.30	1	87.1	57.50	113.2	287.5	2.0
5.0SMDJ58A	5.0SMDJ58CA	5PGG	5BGG	58.0	64.40	71.20	1	93.6	53.50	121.7	267.5	2.0
5.0SMDJ60A	5.0SMDJ60CA	5PGK	5BGK	60.0	66.70	73.70	1	96.8	51.70	125.8	258.5	2.0
5.0SMDJ64A	5.0SMDJ64CA	5PGM	5BGM	64.0	71.10	78.60	1	103.0	48.60	133.9	243.0	2.0
5.0SMDJ70A	5.0SMDJ70CA	5PGP	5BGP	70.0	77.80	86.00	1	113.0	44.30	146.9	221.5	2.0
5.0SMDJ75A	5.0SMDJ75CA	5PGR	5BGR	75.0	83.30	92.10	1	121.0	41.40	157.3	207.0	2.0
5.0SMDJ78A	5.0SMDJ78CA	5PGT	5BGT	78.0	86.70	95.80	1	126.0	39.70	163.8	198.5	2.0
5.0SMDJ85A	5.0SMDJ85CA	5PGV	5BGV	85.0	94.40	104.00	1	137.0	36.50	178.1	182.5	2.0
5.0SMDJ90A	-	5PGX	-	90.0	100.00	111.00	1	146.0	34.30	189.8	171.5	2.0
5.0SMDJ100A	-	5PGZ	-	100.0	111.00	123.00	1	162.0	30.90	210.6	154.5	2.0
5.0SMDJ110A	-	5PHE	-	110.0	122.00	135.00	1	177.0	28.30	230.1	141.5	2.0
5.0SMDJ120A	-	5PHG	-	120.0	133.00	147.00	1	193.0	26.00	250.9	130.0	2.0
5.0SMDJ130A	-	5PHK	-	130.0	144.00	159.00	1	209.0	24.00	271.7	120.0	2.0
5.0SMDJ150A	-	5PHM	-	150.0	167.00	185.00	1	243.0	20.60	315.9	103.0	2.0
5.0SMDJ160A	-	5PHP	-	160.0	178.00	197.00	1	259.0	19.31	336.7	96.6	2.0
5.0SMDJ170A	-	5PHR	-	170.0	189.00	209.00	1	275.0	18.20	357.5	91.0	2.0

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.

RATINGS AND CHARACTERISTIC CURVES

Ratings and Characteristic Curves (T_A=25℃ unless otherwise noted)

Fig. 1 - Peak Pulse Power Rating

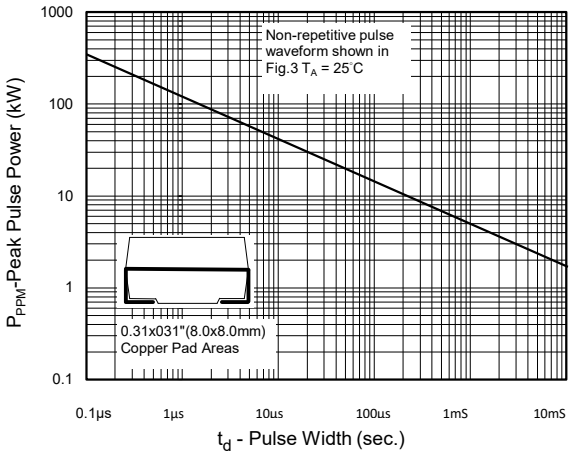


Fig.2 - Pulse Derating Curve

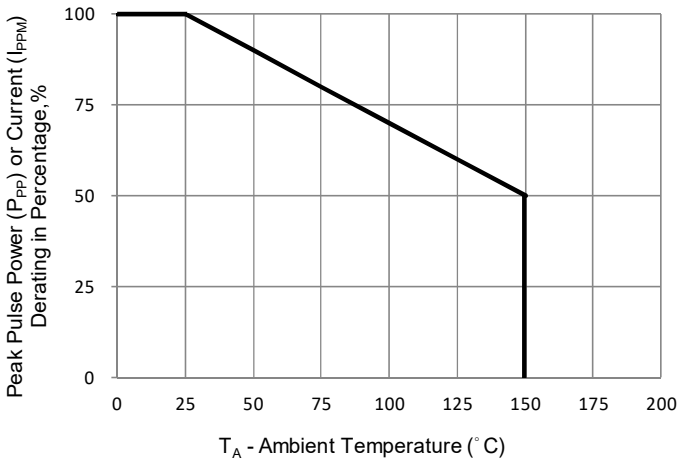


Fig.3 - Pulse Waveform

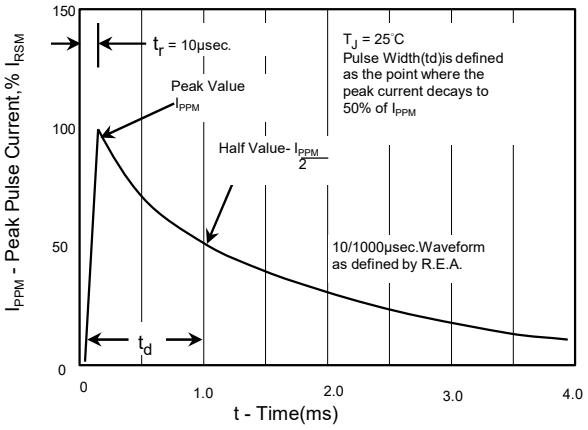


Fig. 4 - Typical Junction Capacitance

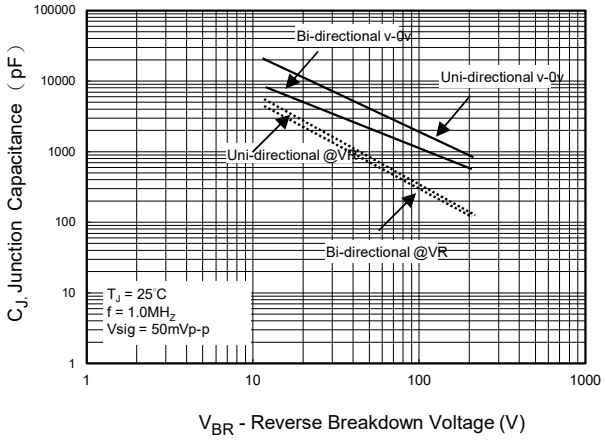


Fig. 5 - Steady State Power Derating Curve

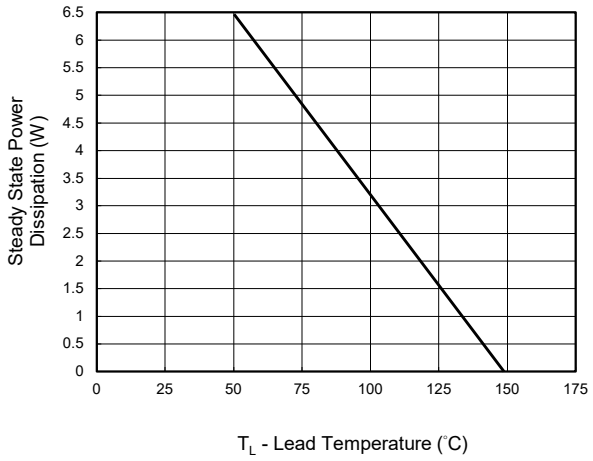
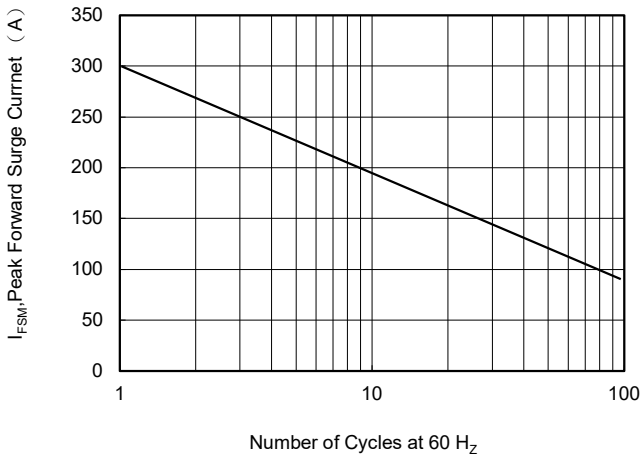


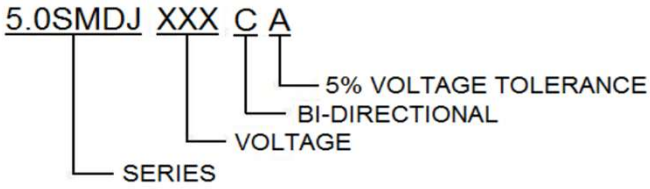
Fig.6 - Maximum Non-repetitive Forward Surge current uni-directional only



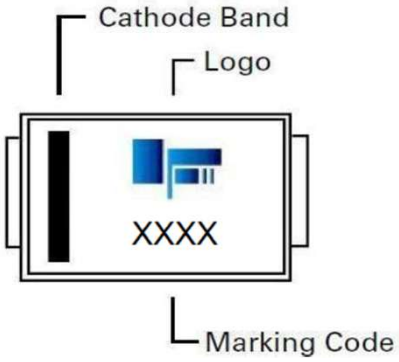
5.0SMDJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
5.0SMDJxxxXX	DO-214AB	3000	Tape & Reel - 16mm/13" tape	EIA STD RS-481
5.0SMDJxxxXX	DO-214AB	500	Tape & Reel - 16mm/ 7" tape	EIA STD RS-481